

REMARKS

Receipt of the non-final office action dated December 9, 2008, is acknowledged. Claims 1, 3, 5-12, and 14-22 are pending in the application. Claims 20 and 21 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. Claims 1, 3, 5-12 and 14-22 are rejected under 35 U.S.C. § 103(a) as obvious over U.S. Patent Publication No. 2002/0111203 (Chi). Reconsideration and withdrawal of the rejections are respectfully requested in view of the foregoing amendments and following remarks.

Enablement Rejection

A specification that shows and describes the claimed invention enables the claims.

Claims 20 and 21 are rejected under 35 U.S.C. § 112, first paragraph, as lacking enablement for reciting that the substrate assembly comprises only a first, second, and third substrate, and that the second substrate only comprises conductive dots.

Enablement requires that the specification describes how to make and use the invention. The test for enablement is whether one skilled in the art can make and use the invention without undue experimentation. *In re Wands*, 858 F.2d at 737; MPEP 2164.01. The specification at page 5, lines 22-24, states that “[t]he substrate assembly 36 includes a first panel or substrate 36a, a second panel or substrate 36b, and a third panel or substrate 36c.” Figure 3 clearly illustrates a substrate assembly having only three (36a-c) substrates. The specification at page 6, line 25 to page 7, lines 1-4, further recites that “[t]he substrate 36b includes a plurality of conductive dots 54[a-h].” Again, Figure 3 clearly illustrates a second substrate (36b) having only conductive dots. The specification continues to disclose how the three substrates interact to form a puzzle that generates sound:

As shown in Fig. 4, when the substrate 36c [i.e. the third substrate] is folded as shown along the fold line 46, each of the individual apertures is disposed over the gap 52 of the corresponding pair of electrical patterns 48 [on the first substrate 36a]. Consequently, and referring now to Figs. 1 and 5, when the substrate 36b [i.e. the second substrate] is folded along the fold line 44, each of the conductive dots becomes aligned with a corresponding one of the apertures and with the gap 52 of the corresponding one called the conductive pair is in the conductive pattern 48. . . . Thus, upon the application of

downward force supplied by the user and as indicated by the reference arrow P [in Fig. 1], the conductive dot 54g is displaced through the corresponding aperture 56g sufficiently to make contact with the appropriate portion of the conductive pattern 48. Thus, the electrical circuit 40 is closed and the sound generator is activated.

Specification, p. 7, lines 14-19. From these disclosures, one of ordinary skill in the art would readily be able to make and use the inventions of claims 20 and 21 without undue experimentation. Accordingly, applicant respectfully requests that the enablement rejection be withdrawn.

Rejections Under 35 U.S.C. § 103(a)

A reference that *precludes* direct contact using an intervening structure cannot suggest a claim that *requires* direct contact.

Claim 1 recites, in relevant part, a puzzle that includes a puzzle piece that directly contacts an upper one of a first or second substrate such that the first and second substrate cooperate to form an electrical circuit thereby activating the sound generator. Claim 12 similarly recites, a puzzle that includes a lower surface of a puzzle piece that directly contacts an upper one of the first or second substrates when the selected portion of a receiving area is depressed.

By comparison, the Chi puzzle requires an intervening face panel 34 having keys 341 that precludes direct contact between the puzzle piece and the upper circuit-contained film 31. Specifically, when a puzzle piece 41 is placed on the face panel 34 the downward force of the puzzle piece 41 causes the keys 341 to move downward, thereby forcing a contact 311 downward to engage a corresponding contact 331. The keys 341 precisely contact only that portion of the upper circuit contained film 31 that includes the contact, thereby ensuring proper contact between the corresponding contacts 311, 331 and preventing unwanted electric contact of any other portions of the longitudinal and transverse conductive lines contained on the upper and lower circuit-contained films 31, 33. Chi expressly teaches the use of the face panel 34 and keys 341 in order to operate properly.

The office action improperly ignores these express teachings, and instead argues that the modification is a mere design consideration. The “mere design consideration” argument is not sufficient to overcome a clear lack of suggestion in the face of the express teachings in

Chi that the intervening structure must be provided. When Chi is considered properly, it is clear that there is simply no motivation to modify Chi to eliminate the expressly taught face panel 34 and key structure because such modification would render the device inoperable. Further, the very items in Chi that must be discarded are the very items in Chi that must be present in the reference. In sum, there is no teaching or suggestion in Chi that the puzzle, which requires the precise contact of the upper circuited contained film by a key, could properly function without the key structure. Thus, not only is there no motivation to modify Chi to eliminate the expressly taught face panel 34 and key structure, but such modification, which renders the Chi puzzle inoperable, is more than a mere design choice. A person of skill in the art would not modify the reference in a manner that renders it inoperable. Accordingly, the claims 1 and 12 are allowable over Chi for at least this reason.

Modification of a reference that expressly teaches four individual and separate films or layers, which *must not* be formed of the same material, to include layers formed from connected portions of what *must be* the same paperboard panel is more than a mere design consideration.

Claim 12 further recites that the puzzle includes first and second substrates formed from connected portions of the same paperboard panel. The connection of the first and second substrates using the same paperboard panel allows for proper alignment of the conductive patterns disposed on each of the substrates simply by folding the paperboard panel along the connected portion. *See* specification at p. 7, lines 14-19 (disclosing that when the substrate 36b is folded along the fold line 44, each of the conductive dots becomes aligned with the conductive pattern of substrate 36a). Thus, the conductive lines and the substrate can be aligned and remain aligned simply by virtue of the interconnection between the substrates.

By comparison, Chi discloses the use of four layers, consisting of the upper and lower circuit-contained films 31, 33, the isolating film 32, and the rubber face panel 34. As is apparent from Figure 1, none of these layers or films are connected to one another, much less formed from connected portions of the same paperboard panel. Further, Chi discloses that the layers are joined using a series of screws 344 screwed in through a press plate 343 and the fastening holes 342, 312, 332, and 241. Thus, the substrates of Chi must be individually aligned and then separately fastened together using the screws. Alignment of the conductive lines and therefore operation of the Chi puzzle can be destroyed simply by loosening of the

screws. In contrast, the substrates of the claimed invention remain aligned by virtue of the interconnection of the substrates. This continuous alignment function served by the substrates being formed from connected portions of the same paperboard panel is not disclosed or suggested in Chi. Accordingly, contrary to the examiner's assertion, modification of Chi to include substrates that are formed from connected portions of the same paperboard panel is more than a mere design consideration.

A reference that expressly teaches a conductive line having contacts cannot render obvious a claim that recites a conductive ink pattern having first and second halves that are separated by a gap.

Claim 20 is amended to recite a puzzle that includes an electrical circuit formed by a first substrate having a plurality of conductive ink patterns, each pattern comprising a first half and a second half separated from the first half by a gap, and a second substrate having a plurality of conductive ink dots, with each dot cooperating with a corresponding one of the patterns to electrically connect the first and second halves of the pattern to permit activation of a sound generator.

Chi fails to disclose or suggest a puzzle having a first substrate with a conducting pattern that includes first and second halves separated by a gap and a second substrate that includes a conductive dot that contacts and connects the first and second halves of the conductive pattern to form an electrical circuit. Rather, Chi discloses upper and lower circuit contained films 31, 33 that include a plurality of longitudinal and transverse conducting lines. *See* Chi at ¶ 22. Neither of the circuit-contained films of Chi includes a conductive pattern that includes first and second halves separated by a gap.

Moreover, one of ordinary skill in the art would not be motivated to modify the upper and lower circuit-contained films of Chi to provide for a conductive pattern that has first and second halves separated by a gap because Chi expressly teaches the use of longitudinal and transverse conductive lines and contacts contained thereon. Furthermore, the primary object of Chi is to provide a sound-emitting jigsaw puzzle in which the interval between contacts provided in its circuit for emitting sounds is largely reduced to result in a largely increased number of contacts. Chi at p.1, ¶ 9. Chi achieves this purpose by providing circuit contained films with conductive lines that intersect at small contact points that can be closely packed. *Id.* at 11. Modification of Chi to include a film having a conductive pattern that includes first

and second halves separated by a gap would increase the amount of space taken up by each contact, thereby decreasing the number of contacts that can be included on the film, which is contrary to the primary object of Chi. Accordingly, there is no motivation or suggestion in Chi to modify the conductive lines of either of the upper or lower circuit contained films to include a conductive pattern having first and second halves separated by a gap. Accordingly, Claim 20 is allowable over Chi.

A reference that requires electrical connection of both corresponding conductive elements to a control unit cannot render obvious a claim that recites the electrical connection of only one conductive element to a sound generator.

Claim 21 is amended to recite a puzzle, the first substrate having a plurality of conductive ink patterns, the second substrate having only a plurality of conductive dots, and *only* the patterns of the first substrate operatively coupled to the sound generator. In the claimed invention, the patterns of first substrate, which are operatively coupled to the sound generator, form an open electrical circuit that is closed by the conductive dot of the second substrate. As shown in Figure 3, the second substrate having *only* conductive dots does not include any other conductive structures connecting the dots to the sound generator.

By comparison, Chi discloses a puzzle having upper and lower circuit contained films 31 and 33 that include longitudinal and transverse conductive lines, respectively. “All rear ends of the plural longitudinal and transverse conductive lines are guided to locate at the same side of the films 31, 33 to correspond to the flat cable connected to and extended from the control unit 2.” Chi, p. 2, ¶ 22. The conductive lines on both the upper and lower circuit contained films 31, 33 must be connected to the control unit to form an open electric circuit that is closed by connection of two corresponding contacts 311, 331. *See* Chi, p. 2, ¶ 28. Contrary to the examiner’s assertion, the puzzle of Chi would not function if one of the circuit contained films was modified to include *only* a plurality of dots, which are not connected to the control unit because there would be no electrical difference between the conductive line of a single circuit contained film and the conductive line of a single circuit contained film in contact with a conductive dot that is not electrically connected to the control unit. Thus, the electrical circuit needed to actuate the sound of the puzzle is not formed by the conductive line and a conductive dot that is not connected to the control unit. Further, the needed modification of Chi would render the device inoperable. Consequently,

there can be no suggestion to modify Chi to include only a plurality of dots. Claim 21, is therefore in allowable form.

All dependent claims depend from allowable independent claims. Accordingly, all remaining dependent claims are in allowable form.

In view of the above arguments, applicant believes the pending application is in condition for allowance.

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Respectfully submitted,

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